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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,341	12/03/2003	Philip C. Georgeau	CHE020 P304A	9027
277 7590 08/17/2010 PRICE HENEVELD COOPER DEWITT & LITTON, LLP 695 KENMOOR, S.E. P O BOX 2567 GRAND RAPIDS, MI 49501				
EXAMINER CHAPMAN, JEANETTE E				
ART UNIT 3633		PAPER NUMBER		
MAIL DATE 08/17/2010		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/726,341

Applicant(s)

GEORGEAU ET AL.

Examiner

Jeanette E. Chapman

Art Unit

3633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-22, 26-27 is/are rejected.
- 7) ☒ Claim(s) 23-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

In view of the Appeal Brief filed on June 4, 2010, PROSECUTION IS HEREBY REOPENED. A new non-final office action is set forth below; *though the office action summary of December 09, 2009 indicated that the amendment of July 27, 2009 had been considered, the underlined or added text in this amendment was inadvertently never addressed or considered.*

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Brian Glessner/
Supervisory Patent Examiner
Art unit 3633.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

claim 14 recites “...***the adhesive has a viscosity prior to curing of about 200,000 to 300,000 centipoise.***” The unit of measurement “centipoise” cannot be found in the common science manuals; therefore the claim is indefinite and has no clear meaning

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karrfalt(4996803) in view of Van Wagoner (3971184) and Gorgeau et al.(6579924)

Claim 1

Karrfalt et al discloses a roof structure for covering a roof substrate, comprising: a roof substrate but not having a sloped upper surface as shown and taught by Van Wagoner '184;

Karrfalt further discloses a waterproof membrane 4 having an upper side and a lower side that is substantially free of fleece material;

Karrfalt lacks a moisture curing substantially non-volatile adhesive comprising a silyl-

terminated polymer disposed on at least a portion of said lower side of said waterproof membrane in contact with said upper surface of said roof substrate and bonding said waterproof membrane to said roof substrate to define a portion of a low slope roof of a building structure, wherein the adhesive has sufficient viscosity to form beads on the sloped roof substrate upon extrusion of the adhesive onto the sloped upper surface of the roof substrate. Georgeau discloses a moisture curing substantially non-volatile adhesive comprising a silyl-terminated polymer capable of being disposed on at least a portion of said lower side of said waterproof membrane and in contact with said upper surface of said roof substrate and bonding said waterproof membrane to said roof substrate to define a portion of a roof of a building structure, wherein the adhesive has sufficient viscosity to form beads on the sloped roof substrate upon extrusion of the adhesive onto the sloped upper surface of the roof substrate. See column 2, line 30 through column 5, line 35.

It would have been obvious to modify Karrfalt in view of Georgeau in order to provide an effective seal around and to the roof substrate as taught by Georgeau.

Further it would have been obvious to use the roof of Karrfalt on a sloped or pitched roof to facilitate water run-off on the roof as shown by Van Wagoner

Claim 2

Georgeau discloses the roof structure of claim 1, wherein:

said silyl-terminated polymer comprises a silyl-terminated polyether. see column 3, line 55-65.

Claim 3

Karrfalt discloses the roof structure of claim 1, wherein: said waterproof membrane 4 comprises a layer of PVC material. See column 4, lines 1-5.

Claim 5

Karrfalt discloses a roof deck structure but lacks the low slope roof structure supported in part by the walls of a building and the low slope roof structure having defining a low soled upper surface as shown by Van Wagoner '184;

Karrfalt does disclose a waterproof membrane 4 having an upper side and a lower side; but Karrfalt lacks a moisture curing silyl-terminated polymer based adhesive disposed on at least a portion of said lower side in contact with said upper surface of said roof substrate, and bonding said waterproof membrane to said upper surface of said roof substrate, wherein the adhesive has sufficient viscosity to form beads on the sloped roof substrate upon extrusion of the adhesive onto the sloped upper surface of the roof substrate.

Georgeau discloses a moisture curing substantially non-volatile adhesive comprising a silyl-terminated polymer capable of being disposed on at least a portion of said lower side of said waterproof membrane and in contact with said upper surface of said roof substrate and bonding said waterproof membrane to said roof substrate to define a portion of a roof of a building structure, wherein the adhesive has sufficient viscosity to form beads on the sloped roof substrate upon extrusion of the adhesive onto the sloped upper surface of the roof substrate. See column 2, line 30 through column 5, line 35.

It would have been obvious to modify Karrfalt in view of Georgeau in order to provide an effective seal around and to the roof substrate as taught by Georgeau.

Further it would have been obvious to use the roof of Karrfalt on a sloped or pitched roof to facilitate water run-off on the roof as shown by Van Wagoner

Claim 6

Georgeau discloses the roof structure of claim 5, wherein:

said silyl-terminated polymer comprises a silyl-terminated polyether. see column 3, line 55-65.

Claim 8

Karrfalt discloses a roof deck structure but does not include:

a rigid low slope roof structure including a roof substrate having a sloped upper surface as shown by Van Wagoner; see figures 1 and 4-7.

Karrfalt discloses a waterproof flexible membrane 4/covering said roof substrate, and defining a lower surface;

Karrfalt lacks a moisture curing substantially non-volatile adhesive comprising a silyl-terminated polymer in contact with the upper surface of the roof substrate and the lower surface of the flexible membrane to thereby bond the flexible membrane to the roof substrate. Georgeau discloses a moisture curing substantially non-volatile adhesive comprising a silyl-terminated polymer capable of being disposed on at least a portion of said lower side of said waterproof membrane and in contact with said upper surface of said roof substrate and bonding said waterproof membrane to said roof substrate to define a portion of a roof of a building structure. See column 2, line 30 through column 5, line 35.

It would have been obvious to modify Karrfalt in view of Georgeau in order to provide an effective seal around and to the roof substrate as taught by Georgeau.

Further it would have been obvious to use the roof of Karrfalt on a sloped or pitched roof to facilitate water run-off on the roof as shown by Van Wagoner.

Claim 9

Georgeau discloses the roof structure of claim 8, wherein:

said silyl-terminated polymer comprises a silyl-terminated polyether. see column 3, line 55-65.

Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karrfalt in view of Van Wagoner and Gorgeau et al. and further in view of Zenor (5447006).

Claim 4

Karrfalt discloses the roof structure of claim 1, wherein: said waterproof membrane comprises a layer of rubber but not EPDM rubber. The disclosure lacks criticality or relevancy in only including this type of rubber. Zenor discloses that such types of roofing membranes may be constructed of PVC or EPDM material; it would have been obvious to modify Karrfalt in view of Zenor to allow for hot welding of the roofing parts and to provide strength and durability to the roof as taught by Zenor. See column 4, lines 27-65.

Claim 7

Karrfalt discloses the roof structure of claim 1, wherein: said waterproof membrane comprises a layer of PVC material. See column 4, lines 1-5.

Karrfalt discloses the roof structure of claim 1, wherein: said waterproof membrane

comprises a layer of rubber that does not include fleece backing but not EPDM rubber. The disclosure lacks criticality or relevancy in only including this type of rubber. Zenor discloses that such types of roofing membranes may be constructed of PVC or EPDM material; it would have been obvious to modify Karrfalt in view of Zenor to allow for hot welding of the roofing parts and to provide strength and durability to the roof as taught by Zenor. See column 4, lines 27-65.

Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karrfalt in view of Van Wagoner and Gorgeau et al. and further in view of Ritland (6742313).

Claim 10

Ritland discloses the roof deck structure of claim 9, wherein:

the flexible membrane includes a layer of fleece matting 24 on one side; and wherein: at least a portion of the adhesive is disposed in the fleece. See column 3 lines 25 -40.

Claim 11

Ritland discloses the roof deck structure of claim 10, wherein:

the flexible membrane comprises a layer EPDM rubber having a thickness of about 0.040-0.070 inches thick. See column 3, lines 34-50.

Claim 12

Ritland discloses the roof deck structure of claim 11, wherein: the fleece matting has a thickness of about 0.040-0.080 inches. See column 3, lines 45-50,

Claim 13

Ritland discloses the roof deck structure of claim 8, wherein:

the flexible membrane 20 is bonded to the roof substrate and has a bond strength of at least one hundred sixty-five pounds per square foot. See column 4, lines 54-66.

It would have been obvious to one of ordinary skill in the art to impart the measurements/ dimensions to the roof deck of Karrfalt in order to provide elements effectively secured together to provide a durable deck structure

Claims 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karrfalt in view of Van Wagoner and Georgeau et al. and further in view of Van Wagoner '723.

Claim 15

Karrfalt discloses an insulation board which very readily could be said to be gypsum board but Van Wagoner '723 discloses the roof deck structure of claim 8, wherein: the roof substrate comprises fiberglass reinforced gypsum board. See column 8 lines 3-15. It would have been obvious to construct the insulation panel of fiberglass reinforcement to increase its tensile strength.

Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karrfalt in view of Van Wagoner '184 and Ritland.

Claim 17

Karrfalt discloses a roof deck structure, but lacks that comprising:

a rigid low slope roof structure including foam insulation forming a roof substrate as shown by Van Wagoner '184;

Karrfalt discloses a waterproof flexible membrane 4 covering said roof substrate;

Karrfalt lacks a moisture curing substantially non-volatile adhesive disposed between the roof substrate and the flexible membrane to thereby bond the flexible membrane to the roof substrate;

Karrfalt discloses a fluted steel or metal deck 3 below the below insulation though not stated of foam as shown by Ritland element 14; and

Karrfalt discloses a moisture curing adhesive 22 bonding the foam insulation to the steel deck without the use of mechanical fasteners. See column 6, lines 8-21.

It would have been obvious to modify Karrfalt to include the sloped roof and the foam insulation to enhance water run-off and to use an inexpensive and well known and effective material for insulation as taught by the secondary references.

Claim 18

Karrfalt discloses the roof deck structure of claim 17, including: moisture curing adhesive polyisobutylene bonding the insulation to the steel deck. Ritland teaches the foam insulation. See motivation statement above

Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karrfalt in view of Van Wagoner '184 and Ritland and further in view of Georgeau.

Claim 19

Karrfalt lacks the roof deck structure of claim 8, wherein: the adhesive includes a silyl-terminated polymer. Georgeau discloses a moisture curing substantially non-volatile adhesive comprising a silyl-terminated polymer. See column 2, line 30 through column 5, line 35.

It would have been obvious to modify Karrfalt in view of Georgeau in order to provide an effective seal around and to the roof substrate as taught by Georgeau.

Claim 20

Karrfalt discloses the roof deck structure of claim 8, wherein:
the adhesive includes an oxyalkylene polymer having at least one reactive silyl group at each end of the polymer molecule. Georgeau discloses the adhesive includes an oxyalkylene polymer having at least one reactive silyl group at each end of the polymer molecule. It would have been obvious to modify Karrfalt in view of Georgeau in order to provide an effective seal around and to the roof substrate as taught by Georgeau.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Karrfalt

Claim 21

Karrfalt discloses a roof deck structure, comprising:
a fluted steel or metal deck 3 having a plurality of elongated upper deck surfaces;
a substantially rigid panel 2 disposed on the steel deck, the panel defining upper and lower surfaces;
Karrfalt discloses a moisture-curing adhesive 22 disposed between the steel deck and the substantially rigid panel in contact with the upper deck surfaces and the lower

surface of the substantially rigid panel; and
a flexible waterproof membrane 4 disposed above the substantially rigid panel 2.

Claim 22

Karrfalt discloses the roof deck structure of claim 21, wherein: the substantially rigid panel comprises insulation board 2.

Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karrfalt in view of Ritland.

Claim 26

Ritland discloses the roof deck structure of claim 21, wherein: the waterproof membrane 20 comprises a fleece-backed 24 material . See motivation statement above

Claim 27

Ritland discloses the roof deck structure of claim 21, wherein: the waterproof membrane 20 comprises a fleece-backed 24 material.

Claims 23-25 are objected to as depending upon a rejected base claim but would be considered allowable if amended to include the base claim and any intervening claims

Claim 16 is allowable over the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeanette E. Chapman whose telephone number is 571-272-6841. The examiner can normally be reached on monday-friday, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GLESSNER BRIAN can be reached on 571-272-6754. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeanette E Chapman/
Primary Examiner, Art Unit 3633